

CHAPTER 105
ORGANIC MATERIALS COMPOSTING FACILITIES

567—105.1(455B,455D) General. This chapter shall apply to the composting of solid wastes. Composting is the controlled biological decomposition of organic matter under aerobic conditions resulting in a stable, innocuous final product. Composting facilities may include vermicomposting, turned windrows, aerated static piles, aerated in-vessel systems, or other methods approved by the department. A composting facility is defined as all related receiving, processing, production, curing, and storage areas and necessary roads, buildings, equipment, litter control devices, pollution control devices, fire control devices, landscaping, gates, personnel and maintenance facilities, sewer and water lines, and process water. Composting facilities existing as of July 21, 1999, must comply with the requirements of this chapter within one year or by the permit renewal date, whichever is later.

105.1(1) Two types of composting are allowed:

a. Yard waste composting. Yard waste composting involves only yard waste, defined as vegetative matter such as grass clippings, leaves, garden waste, brush, and trees, and any clean wood waste free of coatings and preservatives necessary as bulking agent. Use of any other materials as bulking agent shall require prior approval by the department. Yard waste composting facilities are exempt from having a permit if operated in conformance with 567—105.3(455B,455D) and 567—105.4(455B,455D).

b. Solid waste composting. Solid waste composting involves any organic material in addition to or other than yard waste. No one shall construct or operate a solid waste composting facility without first obtaining a permit from the department. On-farm composting of dead animals generated on the same farm as the composting facility is exempt from having a permit if operated in conformance with 567—105.9(455B,455D). Solid waste composting facilities involving municipal sewage sludge shall also operate in conformance with 567—Chapter 67, Iowa Administrative Code.

105.1(2) Burial of yard waste at a sanitary landfill is prohibited. Acceptance of yard waste by a hauling firm or at a transfer station for burial at a sanitary landfill is also prohibited. However, yard waste which has been separated at its source from other solid waste may be accepted by a sanitary landfill for the purposes of soil conditioning or composting. Yard waste accepted by a sanitary landfill for the purposes of soil conditioning shall only be used on finished areas of the landfill that have received the final earthen cover, developed areas with intermediate cover, and restoration of soil borrow areas. Burning of yard waste at a sanitary landfill or transfer station is prohibited.

105.1(3) Each city and county shall, by ordinance, require persons within the city or county to separate yard waste from other solid waste generated. Municipalities which provide for collection of solid waste shall also provide for separate collection of yard waste.

105.1(4) The use of yard waste as land cover or soil conditioner is not prohibited. Land application of yard waste shall be in conformance with this rule.

a. The yard waste shall be taken out of containers and the containers shall be removed from the land application site.

b. The site shall be managed to prevent waste from leaving the property line.

c. The land application shall not exceed 20 tons per acre per year.

d. Yard waste can be stored for two weeks before it must be land-applied.

567—105.2(455B,455D) Exemptions. The following projects are exempt from this chapter. This exemption is not a defense to a nuisance action brought pursuant to Iowa Code chapter 657.

105.2(1) Yard waste composted and used on the same premises where it originated.

105.2(2) Household organic waste composted and used on the same premises where it originated.

105.2(3) Composting facilities involving only animal manure, animal bedding, or crop residues and any clean wood waste free of coatings and preservatives necessary as bulking agent. Use of any other materials as bulking agent shall require prior approval by the department. If animal manure or animal bedding is mixed with other solid wastes for the purpose of composting, then this chapter shall apply unless the other solid wastes have been preapproved by the department as necessary as bulking agent.

105.2(4) Yard waste, household organic waste, animal manure, animal bedding, and crop residues generated on the same premises may be composted together on the same premises where they originated.

567—105.3(455B,455D) General requirements for all composting facilities except dead animal composting facilities. All composting facilities shall meet the following requirements, except on-farm composting of dead animals generated on the same farm if operated in conformance with 105.9(455B,455D).

105.3(1) The composting facility shall be 500 feet from any existing inhabited residence at the time of facility construction unless there is a written agreement with the owner of the residence and the site is screened by natural objects, plantings, fences or by other appropriate means.

105.3(2) Access to the facility shall be restricted and a gate shall be provided at the entrance to the facility and left locked when an employee, agent or representative of the compost facility is not on duty.

105.3(3) Emergency access shall be provided to the facility. Fire lanes shall be maintained to provide access for firefighting equipment.

105.3(4) The facility shall have a permanent sign posted at the entrance specifying:

- a. Name of operation,
- b. Operating hours,
- c. Name and telephone number of the responsible official,
- d. Materials which are accepted or the statement "All materials must have prior approval," and
- e. Name and telephone number of emergency contact person.

105.3(5) Solid waste shall be unloaded at the composting facility only when an employee, agent or representative of the facility is on duty.

105.3(6) Solid waste which cannot be composted or which is removed during processing shall be disposed of in accordance with the Iowa Administrative Code. Infectious waste as defined in Iowa Code section 455B.501(1) "b" and broken glass shall not be accepted for composting at any composting facility unless approved by the department.

105.3(7) Measures shall be taken to prevent water from running onto the facility from adjacent land and to prevent water from running off the composting facility.

105.3(8) Facilities shall be designed, constructed, and maintained so as to avoid or minimize ponding of water or liquids. Any ponding that does occur shall be corrected through routine facility maintenance within 48 hours after the termination of the event causing the ponding.

105.3(9) The operating area for composting shall be surrounded with appropriate barriers to prevent litter from blowing beyond the operating area. At the conclusion of each day of operation, any litter strewn beyond the confines of the operating area shall be collected and stored in covered leak-proof containers or properly disposed.

105.3(10) Solid waste materials shall be managed through the entire process in accordance with best management practices, to minimize and prevent conditions such as odors, dust, and vectors which may create nuisance conditions. For the purposes of this chapter, "best management practices" is defined as the practices described in the most recent version of the Compost Facility Operating Guide published by the United States Composting Council or other best management practices as approved by the department. A copy of the Compost Facility Operating Guide is available for review at the field offices and records center of the department.

105.3(11) Storage of finished compost shall be limited to 18 months.

105.3(12) If finished compost is offered for sale as a soil conditioner or fertilizer, the compost must be registered by the department of agriculture and land stewardship under Iowa Code chapter 200, Iowa fertilizer law. Sale shall be in compliance with all applicable federal and state laws and local ordinances and regulations.

105.3(13) Compost shall not be applied to land or sold or given away unless the concentration of human-made inert materials such as glass, metal, and plastic is less than 1.5 percent by dry weight. Compost shall not be applied to land or sold or given away unless the size of any human-made inert materials is less than 13 mm.

105.3(14) The composting facility shall obtain an NPDES permit as required in 567—Chapter 64.

567—105.4(455B,455D) Specific requirements for yard waste composting facilities. Yard waste compost facility operators are encouraged to be trained, tested, and certified by a department-approved certification program upon adoption of such a program by the department.

105.4(1) Before opening a yard waste composting facility, the waste management assistance division and the field office of the department serving the composting facility's location shall be notified in writing of the following:

- a. The location of the composting facility,
- b. Legal description of the facility,
- c. Landowner's name, telephone number, and mailing address,
- d. Responsible party's name, telephone number, and mailing address,
- e. Annual capacity of the facility,
- f. Source of the yard waste and any necessary bulking agent, and
- g. Method of composting to be employed.

105.4(2) An all-weather surface must be used for receiving and for access to the facility. The all-weather surface shall be made of materials that will permit accessibility during periods of inclement weather.

105.4(3) The area of the composting facility must be large enough for the volume of yard waste composted.

105.4(4) Yard waste to be composted must be taken out of containers. Yard waste may be left in bags only if the bags are biodegradable.

105.4(5) Aerobic conditions shall be maintained in accordance with best management practices as defined in 105.3(10).

105.4(6) Reporting. An annual report summarizing the records required in 105.4(6) "a" to "c" shall be submitted to the waste management assistance division of the department and the field office of the department serving the composting facility's location by July 31 of each year. The report shall summarize the records from the fiscal year beginning July 1 of the preceding calendar year and ending June 30 of the current year. The records required in 105.4(6) "a" to "c" shall be condensed into monthly totals and an annual total of the following:

- a. Amount of yard waste and any necessary bulking agent accepted in tons,
- b. Amount of finished compost removed from the facility in tons, and
- c. How the compost removed from the facility was used and, if possible, the number of tons per use.

These records shall be maintained for a period of two years after last use of the compost facility. These records shall be maintained at the facility for inspection and evaluation by the department at any time during normal operating hours.

567—105.5(455B,455D) Permit requirements for solid waste composting facilities. All solid waste composting facilities shall meet the following requirements, except on-farm composting of dead animals generated on the same farm if operated in conformance with 105.9(455B,455D). Application for a permit to construct and operate a solid waste composting facility shall be made on Form 50 (542-1542) and submitted to the department's Des Moines central office. This permit is issued under the authority of Iowa Code section 455B.305 for sanitary disposal projects which comply with the requirements of this chapter. A comprehensive solid waste management plan, completed in accordance with 567 IAC 101.4(455B,455D), shall be submitted to and approved by the waste management assistance division of the department before a permit can be issued.

This application must be accompanied by an operating plan encompassing, at a minimum, the design plans, specifications and additional information required by this chapter. Such permits are issued for a period of three years and are renewable for a period of three years.

The department shall either approve or deny a permit to a person applying for a permit within six months from the date that the department receives a complete application. A complete application which is not denied within the six-month period shall be approved by default. The department shall issue a permit to the applicant within ten days following the date of default approval.

If an application for a solid waste composting facility permit is found not to be in full compliance with this chapter, the applicant will be notified of that fact and of the specific deficiencies. If the deficiencies are not corrected within 30 days following such notification, the application may be returned as incomplete without prejudice to the applicant's right to reapply. The applicant may be granted, upon request, an additional 30 days to complete the application.

105.5(1) A permit application for a new facility shall include a completed Form 50 (542-1542) and a map or aerial photograph. This map or aerial photograph shall identify:

1. The boundaries of the facility,
2. Wells, streams, creeks, rivers, ponds, sinkholes, and drainage wells,
3. North or other principal compass points,
4. Zoning and land use within one-half mile,
5. Haul routes to and from the facility with load limits or other restrictions,
6. Homes and buildings within one-half mile,
7. Section lines or other legal boundaries, and
8. Any nearby runway used or planned to be used by turbojet or piston-type aircraft at FAA-certified airports.

105.5(2) Design requirements. Design documents must be prepared by a professional engineer licensed in the state of Iowa (Iowa Code chapter 542B) and must include the following:

- a. Equipment to be installed, litter control devices, pollution control devices, fire control devices, landscaping, gates, personnel and maintenance facilities, sewer and water lines, and process water, and dimensions, details, and capacities of the proposed receiving, processing, production, curing, and storage areas.
- b. Design calculations justifying the size of the composting areas. The areas for composting must be adequate for the volume of solid waste being composted.
- c. Descriptions, specifications, and capacities of proposed equipment to be used in composting.
- d. Flow diagram of all operating steps.
- e. Composition of the operating surface. Receiving, processing, production, and curing must take place on a constructed, impervious base that can support the load of the equipment used under all weather conditions. The permeability coefficient of the base must be less than 1×10^{-7} cm/sec (0.00028 feet/day). Storage areas for finished compost must be made of materials that will permit accessibility during periods of inclement weather.

f. Dimensions, details, and capacities of storm water management systems to prevent run-on and runoff from the composting facility. The storm water management systems must be designed to collect and store all runoff water from the proposed receiving, processing, production, curing, and storage areas resulting from a 25-year, 24-hour precipitation event. Storm water management systems must meet applicable federal and state storm water regulations and shall not discharge to surface waters except as allowed by an NPDES permit.

105.5(3) Operating requirements. The operating plan shall provide the following:

- a.* Method of composting.
- b.* Duration of composting with a time frame for receiving, processing, production, curing, and storage.
- c.* Description of storage of raw materials including quantity and types. All materials received must be incorporated into the composting process within 24 hours of receipt unless storage of these materials is specified in the plan and approved by the department.
- d.* Description of the types, amounts, and sources of wastes to be received and processed daily. Prior to the facility's expanding the amount or types of materials accepted, the facility shall make a request in writing and obtain approval from the department for an amendment to the permit.
- e.* Description of the aeration method and the aeration frequency to be used to maintain aerobic conditions in accordance with best management practices as defined in 105.3(10).
- f.* Description of the methods to prevent, minimize, and manage odors.
- g.* Description of the methods to prevent, minimize, and manage dust.
- h.* Description of the methods to prevent, minimize, and manage flies, rodents and other vermin.
- i.* Description of the specific procedures to be followed in case of equipment breakdown, maintenance downtime, and fire in equipment, composting material or buildings to include methods to be used to remove or dispose of accumulated waste and burned and damaged material.
- j.* Plans for using or marketing the finished compost.
- k.* Method(s) of disposing of collected storm water.
- l.* Method(s) of maintaining storm water management systems to maintain design volume and to locate and repair leaks in the system.
- m.* Description of the monitoring, sampling, and analysis procedures and schedule for testing the composting process and product including sampling frequency, sample size and number, and sample locations. Sample collection, preservation, and analysis must be done in a manner which ensures valid and representative results. Two guidance documents describing in more detail methods for composting and compost monitoring, sampling and analysis are the most recent versions of the Compost Facility Operating Guide and the Test Methods for the Examination of Composting & Compost published by the United States Composting Council. A copy of each publication is available for review at the records center of the department. The department may inspect the facility and perform testing on the composting process and product at any time. Unless otherwise proposed in the operating plan and authorized in the permit, the permit holder shall test at a minimum:
 - (1) Twice weekly temperature readings of compost piles, batches, and windrows. Compost must be held at a temperature above 55 degrees Celsius (131 degrees Fahrenheit) for at least two weeks for the purpose of pathogen destruction. Other time periods may be approved by the department.
 - (2) Weekly moisture levels of compost piles, batches, and windrows.
 - (3) Testing of the finished product. Compost shall not be applied to land or sold or given away unless the concentrations of human-made inert materials comply with 105.3(13) and the concentrations of all metals are less than the following:

| Metal | Concentration mg/kg dry weight |
|---------------|-----------------------------------|
| Arsenic (As) | 41 |
| Cadmium (Cd) | 39 |
| Copper (Cu) | 1500 |
| Lead (Pb) | 300 |
| Mercury (Hg) | 17 |
| Nickel (Ni) | 420 |
| Selenium (Se) | 36 |
| Zinc (Zn) | 2800 |

105.5(4) Application for permit renewal must be made on Form 50 (542-1542) and must be received at the department's Des Moines office at least 90 days before the expiration date of the existing permit. The renewal application shall include any proposed changes to the design or operation of the facility, a revised closure plan if necessary, and a confirmation that a revised subsequent comprehensive plan has been approved.

The department shall conduct an inspection of the composting facility following receipt of the application for renewal. Following the inspection, the permit holder shall be notified of all measures needed to bring the composting facility into conformance with the permit and these rules.

A permit shall be renewed when a complete application has been received and all corrective measures have been completed.

If an application for a solid waste composting facility permit renewal is found by the department to be incomplete, the applicant will be notified of that fact and of the specific deficiencies. If the deficiencies in the application have not been corrected within 30 days following the notification, the application may be denied.

567—105.6(455B,455D) Record keeping and reporting requirements for solid waste composting facilities. All solid waste composting facilities shall meet the following requirements, except on-farm composting of dead animals generated on the same farm if operated in conformance with 105.9(455B,455D).

105.6(1) Record keeping. The following records shall be maintained at the facility at all times and shall be submitted to the department upon request:

- a. Analytical results described in 105.5(3) "m." These results shall be recorded on a department-approved reporting form.
- b. Types and weight of waste accepted at the facility daily and annually, in tons.
- c. Weight of compost removed from the facility daily and annually, in tons.
- d. How the compost removed from the facility was used and, if possible, the number of tons per use.
- e. A copy of the plan, the permit, annual reports, and the current storm water pollution prevention plan.

105.6(2) Reporting. An annual report summarizing the records required in 105.6(1) "a" to "d" shall be submitted to the solid waste section and the waste management assistance division of the department by July 31 of each year. The report shall summarize the records from the fiscal year beginning July 1 of the preceding calendar year and ending June 30 of the current year. The records required in 105.6(1) "b" to "d" shall be condensed into monthly totals and an annual total.

567—105.7(455B,455D) Closure requirements for solid waste composting facilities. All solid waste composting facilities shall meet the following requirements, except on-farm composting of dead animals generated on the same farm if operated in conformance with 105.9(455B,455D). For each composting facility, a closure plan shall be submitted to the department containing a description of the steps necessary to close the facility. A permit shall not be issued unless the closure plan is approved.

105.7(1) An updated closure plan, including a schedule for closure, shall be submitted to the department at least 60 calendar days prior to the proposed termination date for the facility.

105.7(2) Unless an alternative schedule is approved by the department, within 14 calendar days of the facility's ceasing operation, all waste and unfinished and finished compost shall be removed from the site.

567—105.8(455B,455D) Operator certification for solid waste composting facilities. All solid waste composting facilities shall meet the following requirements, except on-farm composting of dead animals generated on the same farm if operated in conformance with 105.9(455B,455D). Solid waste composting facility operators shall be trained, tested, and certified by a department-approved certification program upon adoption of such a program by the department. The person responsible for daily operation of the facility shall be certified.

567—105.9(455B,455D) Specific requirements for on-farm composting of dead animals generated on site. The owner of an animal feeding operation is encouraged to notify the waste management assistance division and the field office of the department serving the composting facility's location before initiating on-farm composting. On-farm composting facility operators are encouraged to be trained, tested, and certified by a department-approved certification program upon adoption of such a program by the department. On-farm composting of dead animals generated on the same farm is exempt from having a permit if the following operating requirements are met.

105.9(1) Dead animals are incorporated into the composting process within 24 hours of death and covered with sufficient animal manure, animal bedding, crop residues and clean wood waste free of coatings and preservatives necessary as bulking agent to prevent access by domestic or wild animals.

105.9(2) Composting is done in a manner that prevents formation and release of runoff and leachate and controls odors, flies, rodents and other vermin.

105.9(3) Dead animals are not removed from composting until all flesh, internal organs, and other soft tissue are fully decomposed.

105.9(4) Storage of finished compost shall be limited to 18 months and shall be applied to cropland or pastureland at rates consistent with the nitrogen use levels necessary to obtain optimum crop yields and shall be applied in a manner as to prevent runoff to surface waters of the state. Application of compost to other lands shall require prior approval by the department.

105.9(5) Composting must be done on an all-weather surface of compacted soil, compacted granular aggregates, asphalt, concrete or similar relatively impermeable material that will permit accessibility during periods of inclement weather and prevent contamination of surface and groundwater.

If composting is done in a permanent structure, composter construction shall utilize weather- and rot-resistant materials capable of supporting composting operations without damage. Although not mandatory, a roof over the composting facility is recommended to prevent excess moisture accumulation that can lead to production of undesirable odors and leachate.

105.9(6) Composting must be done outside of wetlands or the 100-year flood plain and at least 100 feet from private wells, 200 feet from public wells, 50 feet from property lines, 500 feet from inhabited residences, and 100 feet from flowing or intermittent streams, lakes, or ponds.

These rules are intended to implement Iowa Code sections 455B.304 and 455D.9.

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